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ABSTRACT

As a situational precursor of embarrassment, this study required college freshmen to answer either innocuous or body image questions asked by an opposite sex confederate, who was gazing directly into their eyes. College freshmen were chosen because they are in the process of assimilating physical changes and new roles apart from the familiar social milieu of home and because they have already evidenced concern about their body images and how they present themselves to the opposite sex. Hypotheses tested were: (1) the behaviors correlated with embarrassment would indicate an adjustive coping response; (2) low self-concept subjects would show more embarrassment than high self-concept subjects; and (3) subjects would show more embarrassment to questions about those body parts with which they were dissatisfied and rated as being of subjective importance. Raters took behavioral measures behind a one-way mirror, while a third rater measured response time. Ratings indicated that response latency, response time, fidgeting, eye contact, redness, and laughter were embarrassment-producing measures and were the most reliable assessors of the emotion. Hypotheses (2) and (3) were not supported. (Author/LAA)

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Embarrassment and Its Relationship to the Body Image and Self-Concept of the College Freshman

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Theoretical explanations of embarrassment have been proposed from four schools of psychology. Compelling arguments regarding the situational determinants of embarrassment, its etiology, and its effect on the individual have been presented from these four schools. However, few of these ideas have been presented as testable hypotheses. Because the existential and interpersonal approaches present more compelling arguments, the following definition of embarrassment has been derived from these two theories.

During a social interaction each individual attempts to act in accordance with the roles and expectations defined by that situation and also in accordance with his self-concept, the manner in which he perceives himself. Each individual also defines for himself certain attributes which he feels are desirable to possess, his ego-ideal. The discrepancy the individual perceives between his self-concept and ego-ideal is called self-concept discrepancy or level of self-concept. Embarrassment occurs during a social interaction when the individual perceives that the self he <u>wishes to present</u> is discrepant from the self he <u>actually does present</u>. A less desirable aspect of his self is exposed and embarrassment occurs.

The above account is a portrayal of the situational precursor of embarrassment, and its effect upon the individual's self-perception. However,

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embarrassment is an emotion and as such elicits feelings and observable signs. Table 1 displays the behaviors which are used to define embarrassment.

For the situational precursor of embarrassment college freshmen were required to answer either innocuous or body image questions asked by an opposite sex confederate, who was gazing directly into their eyes. Because the body image is an integral part of one's identity, a situation where an undesirable aspect is exposed is optimal for eliciting embarrassment. College freshmen were chosen because they are in the process of assimilating physical changes and new roles apart from the familiar social milieu of home. Also, college freshmen have already evidenced concern about their body images and how they present themselves to the opposite sex (Sattler, 1965).

From the preceding definition of embarrassment, the following hypotheses were derived: 1) The behaviors correlated with embarrassment would indicate an adjustive coping response, i.e., they are face-saving maneuvers. 2) Low self-concept subjects would show more embarrassment than high self-concept subjects. 3) Subjects would show more embarrassment to questions about those body parts with which they were dissatisfied and rated as being of subjective importance.

Method

College freshmen, 102 males and 153 females completed both a body image scale, Table 2, and a self-concept scale, Table 3 (Rosen & Ross, 1968). A discrepancy score between where the individual indicated that he perceived himself falling on a dimension of the self-concept scale and where he would like to fall, his ego ideal, was taken to derive a measure of self-concept level.

Twenty males and twenty females falling at the highest and lowest ends of the self-concept scale were telephoned and asked to participate in a study

researching interpersonal interaction between opposite-sex freshmen. Because some subjects refused to come, the final N equaled 60, 15 in each group.

The subjects were told the purpose of the experiment--to investigate how college freshmen react to a series of questions about themselves. While electrodes were attached to their thumbs, the subject and the confederate were informed that their pulse rates were to be monitored and were given an explanation of how GSR functioned as a lie detector test. However, pulse rates were never taken as the purpose of this procedure was to allow the confederate to control a hidden button with which he monitored eye contact.

In order to establish rapport and commonality, the pair was told that they were brought together because of the manner in which they both answered the questionnaire and were given a few minutes alone together. Then, the confederate was given a randomized set of embarrassing or body image questions (Table 4) and innocuous questions (Table 5).

The raters took behavioral measures behind a one-way mirror, while a third rater measured response time. The raters were unaware of the subject's self-concept group and of the question being asked.

The measures (Table 1) except for the last three were responses given by 200 Introductory Psychology students to the questions of what happens to oneself when one becomes embarrassed and how one knows when another person is embarrassed (Kaplan & Marlatt, 1970). Redness of the face was chosen as an obvious correlate of embarrassment. Face pales was included as an anxiety response to see if anxiety and embarrassment could be distinguished. The last three measures, refusal to answer questions, refusal to answer a specific question, and retraction of previous statement were from a tape recording of the interview and were included as mechanisms a S might use to negate the

situation. By refusing to answer questions or retracting the truth value of his statement, the S has succeeded in removing himself from the situation or has denied its validity.

While the measures in Table 1 were either rated for their presence or absence during a question interval, three other continuous measures were taken--eye contact, response latency, and the amount of time spent answering a question, response time.

Response latency was predicted to be longer and response time shorter for embarrassing than innocuous questions. Because the responses to embarrassing questions were threatening, the subject was expected to pause as he decided upon the least anxiety-provoking answer, and then give a short response.

The confederate monitored the subject's eye contact. After reading each question, the confederate looked into the S's eyes and pressed the hidden button as long as the subject was looking at him. Between questions the pair was instructed not to speak, and the confederate did not look at the subject.

After the interview the subject was informed of the true purpose of the experiment, was assured that confidentiality would be maintained, and was asked to indicate those questions which he thought were embarrassing as a means of validating the rating scale.

Results

Some of the behaviors occurred so infrequently that their use in separate analyses could not be justified. Face pales, face hides, etc. were combined into the category "other visual behaviors"; and loss of speech, mumbling, etc. were combined into the category "other auditory behavior." This yielded eight separate measures of embarrassment.

Separate 2 X 3 analyses of variance utilizing the factors sex, self-

concept, and embarrassment, meaning the body image versus innocuous questions were performed for each of the eight measures As indicated in Table 6, the following measures yielded significant differences ($p < .01$) in subjects' responses to the two types of questions: response latency, response time, fidgeting, redness, laughter, and other auditory. Both eye contact and other visual were in the appropriate direction but did not reach significance.

Because a portion of the subjects did not indicate that they experienced embarrassment during all of the body image questions but did rate some of the innocuous questions as embarrassing, another set of 2 X 3 analyses of variance were performed on each of the eight response measures. The embarrassment factor was divided between the questions the subject rated as embarrassing and those that he did not rate as embarrassing. Subjects who rated none of the questions embarrassing were dropped from the analysis.

Table 7 indicated that the following measures yielded a significant embarrassment effect ($p < .01$): response latency, eye contact, response time, fidgeting, redness and laughter. Because the findings for eye contact were complex, these results, as well as an interpretation of the findings, appear in Appendix A.

The previous analyses showed that certain behaviors could be used as indices of embarrassment. Because uncertainty remained whether these measures were variable within subjects or general measures of embarrassment, the response measures were correlated with one another. As can be seen from Table 8, both the behaviors occurring during the body image questions, the embarrassment analysis, and a change score resulting from the embarrassment manipulation, the difference analysis revealed that the measures indicative of embarrassment also tended to correlate with one another.

Low self-concept subjects were expected to show more embarrassment than high self-concept subjects. The previous analyses of variance did not support this hypothesis.

Subjects were expected to become more embarrassed about those aspects of their body image with which they were dissatisfied and rated as being important. To test for the presence of a relation between body image and embarrassment, male and female subjects were separately divided into high and low body image groups. A t-test revealed no relation between body image and embarrassment.

Discussion

The measures response latency, response time, fidgeting, eye contact, redness, and laughter indicated that embarrassment was produced and were the most reliable assessors of the emotion. For both embarrassment as experimentally defined by the questions and for the subjects' ratings of their experience, these measures produced significant results, with response time, response latency, and eye contact appearing to function together, i.e., their correlations were significant. These three measures might indicate an adjustive coping response to embarrassment.

Subjects had longer response latencies and shorter response times for embarrassing than innocuous questions. When confronted with an embarrassing question, the subject may have spent time deciding upon a response which enabled him to avoid discussing the body part by giving a short answer. Perhaps, the subject found himself in a situation where he was in danger of exposing his feelings of inadequacy regarding that body part and wanted to avoid abdicating his role as someone who sustains encounters (Goffman, 1956). Therefore, he structured the encounter in such a way that he could expose

the least amount of discrepancy between himself as a self-confident person who easily accepts inadequacies of body image and a person who feels embarrassed discussing that body dimension.

Subjects fidgeted more during innocuous than embarrassing questions. When asked a threatening body image question, the subject froze, caught by the immobility of embarrassment (Lynd, 1961).

Blushing, an involuntary response, occurred significantly more often during embarrassing than the innocuous questions and was supportive evidence that the interview conditions generated embarrassment.

Laughter was more difficult to interpret. People emit nervous giggles when embarrassed, but they also laugh when experiencing something as funny. Conceivably, both factors were operative in the present experiment. The questions were not the kind that often appear in a "scientific laboratory"; and thus they were rather humorous in context. On the other hand, Ss were most certainly threatened when they found themselves describing their legs, penis, or breast to a person of the opposite sex who was looking directly into their eyes.

Although eye contact was correlated with the other measures, the interactions were complex. A discussion of these results appears in Appendix A.

The non-significant relationship between subjects' ratings of embarrassment and measures of embarrassment may be indicative of a lack of validity for the body image scale.

During the interview condition, the subjects were told that their GSR was being monitored. Since it was described in terms of a lie detector test, the Ss may have truthfully rated the questions on which they were embarrassed. No such demands were present during the completion of the body image scale, and because subjects were embarrassed, they probably denied some of their true

feelings regarding specific body parts. Modigliana (1966) found that embarrassment occurred as a result of situational loss of self-esteem, even when others were not present. Another possible explanation is the subjects were reacting to societal demands against verbalizing too much emphasis on physical beauty, e.g., many subjects rated all body dimensions as not important. However, during the interview condition, the subjects thought that their physiological reactions were being monitored and may have complied with the experimental demand to express their "true feelings."

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MPA, 1972

Table 1

Behavioral Rating Scale

Please check appropriate items _____

Real Question Number 1 2 3 4 5 6 7 8 9 10 11 12 13 14

Sequence Number _____

Behavior Ratings

Face
- pale
- redness
- hides

Bites fingers or nails

Bites lips

Fidgeting

Shifts weight

Tape Ratings

Speech changes
- loss of speech
- mumbling
- incoherence
- stuttering
- swearing

Laughter

Refusal to answer questions

Refusal to answer specific questions

Retraction of previous statement

Reliability of behavioral ratings:

a) $\frac{\#\text{same responses}}{\#\text{same + different responses}} = .592$

b) $1.00 - \frac{\#\text{diff. respo.}}{\#\text{possible responses}} = .368$

Reliability of Tape Ratings = 1.00

Table 3

Questionnaire - Male

Interests

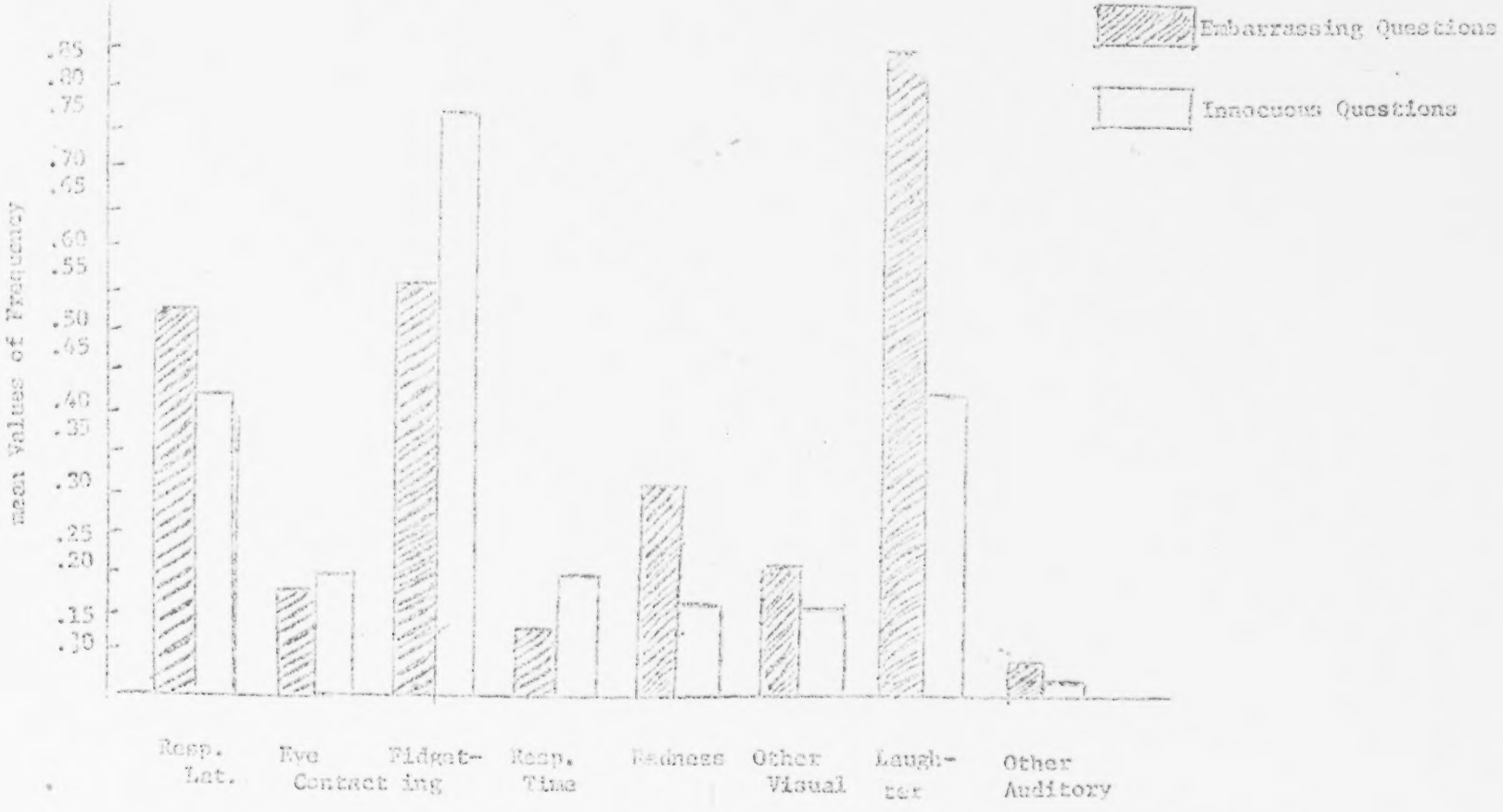
1. What do you think of the university's new curriculum?
2. What are the differences between the high-school and college [illegible] period?
3. How would you describe your home town?
4. How large was your high school?
5. What do you think of cafeterias?
6. Do you think that Elton is responsible for the fighting on campus?
7. Do you think that a college education should be available to anyone who wants one? Please explain your answer.

Body_Image

1. How would you describe your mood?
2. How often does your [illegible] affect you and how do you feel about your complexion?
3. How would you characterize the [illegible] you have in relation to other college students?
4. Do you think you have fun life?
5. At what age did you have your first sexual affair?
6. Describe your teeth.
7. How would you characterize your smile?

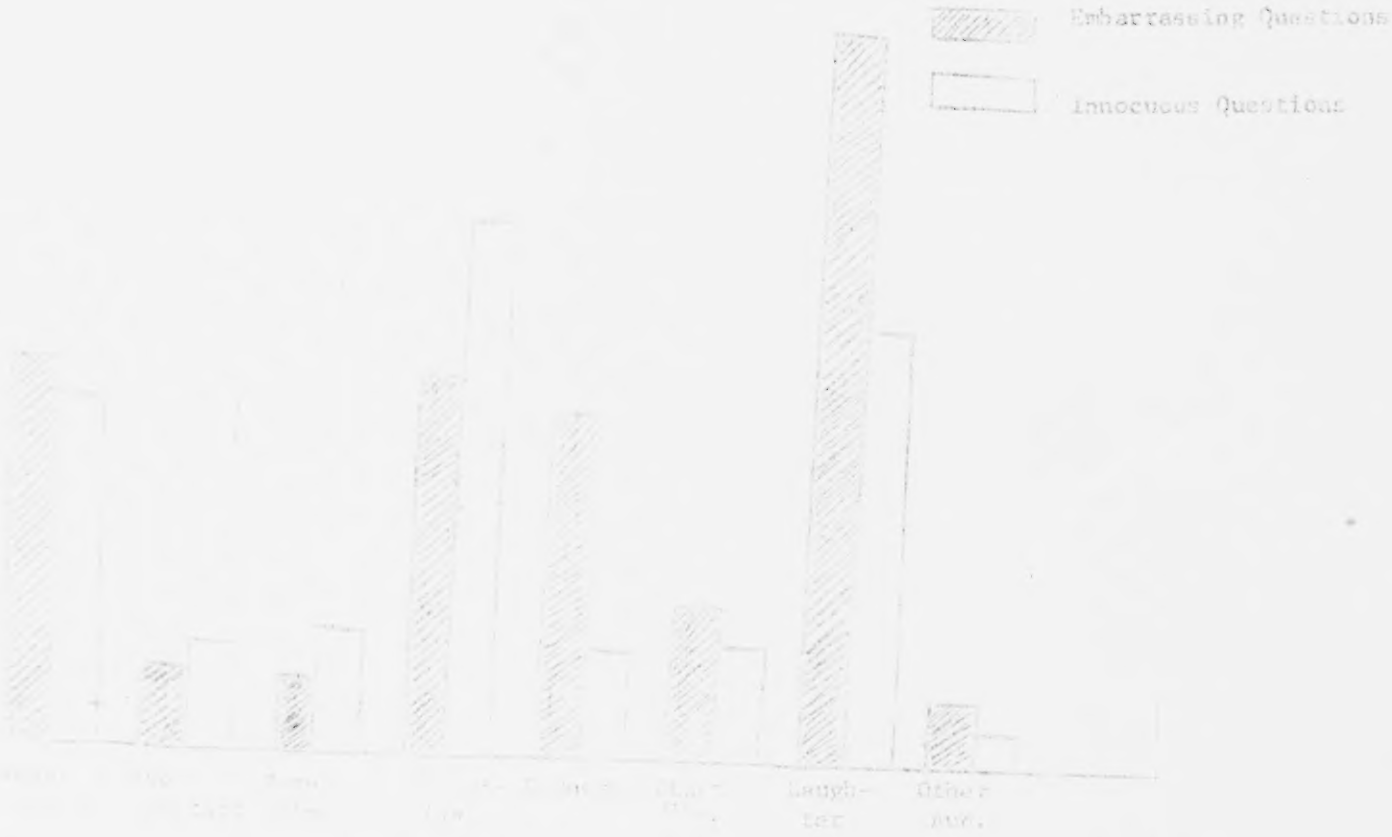
Table 61

Embarrassment vs. Innocuous Analysis



[1]Resp. time and resp. latency means have been adjusted to conform to scale values.

Figure 1--Embarrassing vs. Innocuous Analysis



Values have been adjusted to conform to scale values.

Table 8

Correlation of Response Measures

Group Assessment Analysis

	Resp. Lat.	Eye Contact	Resp. Time	Fidgeting	Red. ness	Visual	Laughter	Auditory
Resp. Lat.								
Eye Contact	.083							
Resp. Time	.271**	.216*						
Fidgeting	.066	.090	.212*					
Redness	.050	.138	.062	- .090				
Visual	.193*	.022	.098	.132	.132			
Laughter	- .074	- .177	.023	.002	.010	- .057		
Auditory	.036	.243	.211	- .034	.174**	.021	.408	

Difference Analysis

	Resp. Lat.	Eye Contact	Resp. Time	Fidgeting	Redness	Visual	Laughter	Auditory
Resp. Lat.								
Eye Contact	.02							
Resp. Time	.352**	- .146						
Fidgeting	.010	.027	.244*					
Redness	.053	.118	- .147	- .008				
Visual	.016	.030	.001	.135	- .061			
Laughter	.180	.017	.050	.001	.059	- .005		
Auditory	- .056	- .050	.130	- .097	.304**	- .076	- .151	

APPENDIX A

The analysis of variance which analyzed the body image versus innocuous questions yielded a significant sex by embarrassment effect for eye contact ($p < .05$). Females and low self-concept males looked at the confederate more during the innocuous questions than during the body image questions, while high self-concept males responded in the opposite direction.

When another analysis of variance was performed on the eye contact measure for those questions the subject rated as embarrassing versus those that he did not rate as embarrassing, a significant sex effect was found ($p < .01$). Males engaged in more eye contact than females. Although the confederates' eye contact was controlled, the male confederate wore eye glasses, which may have differentially affected the male and female subjects.

The sex by embarrassment interaction is more difficult to interpret. Consistent with predictions, males had less eye contact during the embarrassing than during the innocuous questions; for females the reverse was true. Exline et al. (1965) found that subjects given a personal interview looked at the interviewer less than those subjects given a recreational interview. In a later study (Exline & Winters, 1965), cognitive complexity was shown to be an important determinant of eye contact. Males who had been given Schroeder and Steufert's (1961) measure of cognitive style were divided equally into three groups varying along the dimensions of cognitive concreteness-abstractness. They were given a verbal report task of three levels of cognitive difficulty. Subjects looked at the E less when discussing the more difficult items, and "abstract" Ss exhibited more EC than Ss of more concrete cognitive style. Exline and Winters proposed that difficulties arose when an S tried to process complex material, and at the same time integrate

the E's reactions. A person with an abstract cognitive style was better able to process the cognitive task, could readily integrate the reactions of others into his own thinking, and could maintaineye contact.

The above results raised doubts about the earlier finding (Exline et al. 1965) that EC diminished during the personal interview. Perhaps, the Ss avoided mutual gazing because the personal interview was more complex and involved abstract thought. In the present experiment with cognitive complexity controlled, the avoidance hypothesisstill holds for male subjects, i.e., EC was greater for embarrassing than innocuous questions. The mechanisms affecting female subjects are more complex.

Argyle and Dean (1965) attempted to classify eye contact in terms of function: (1) establishment and recognition of social relationships, (2) information seeking, (3) signaling that the channel is open, and (4) concealment and avoidance. Perhaps all of the latter three mechanisms were operating for female subjects.

Females are reported to have more eye contact than males, presumably because of their higher need for affiliation (Exline,1963; Exline et al., 1965). Males in the present investigation were found to have more eye contact than females for both embarrassing and innocuous questions. Perhaps the females disliked the male confederate and were communicating a desire not to affiliate or "closing the channels." Mehrabian and Friar (1969) reported that, whereas with the males EC was a direct function of liking, with females only those addressing a disliked male had significantly less EC than in the other conditions.

The above hypothesis does not explain why females decreased their EC on the innocuous rather than on the embarrassing questions. Perhaps the females found themselves in a threatening situation and wanted to leave the scene,

producing an overall diminished eye contact. Because they felt threatened during the embarrassing questions, the females looked to the confederate for reassurance, Argyle's category of information seeking. Modigliana (1966) found a similar result. Subjects who rated themselves as less embarrassed (defined by a loss of public self-esteem) decreased their eye contact less than the more embarrassed subjects. He interpreted the decreases in eye contact as the result of the Ss' not liking a confederate who maintained mutual regard while criticising them. Obviously, more research is needed to fully account for this effect.